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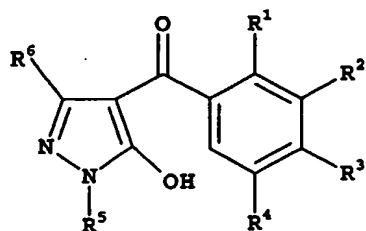
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- before the expiration of the time limit for amending the claims and to be republished in the event of receipt of amendments

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6 May 2004

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

(54) Title: SYNERGISTICALLY ACTING HERBICIDAL MIXTURES



(I)

(57) Abstract: A synergistic herbicidal mixture comprising A) at least one 3-heterocycl-yl-substituted benzoyl derivative of the formula (I) see paper version in which the variables have the following meanings: R<sup>1</sup>, R<sup>3</sup> are halogen, alkyl, haloalkyl, alkoxy, haloalkoxy, alkylthio, alkylsulfinyl or alkylsulfonyl; R<sup>2</sup> is a optionally substituted heterocyclic radical selected from the group: isoxazol-3-yl, isoxazol-4-yl, isoxazol-5-yl, 4,5-dihydroisoxazol-3-yl, 4,5-dihydroisoxazol-4-yl and 4,5-dihydroisoxazol-5-yl; R<sup>4</sup> is hydrogen, halogen or alkyl; R<sup>5</sup> is alkyl; R<sup>6</sup> is hydrogen or alkyl; or one of its environmentally compatible salts; and B) at least the compound of formula (IIa) see paper version or one of its environmentally compatible salts; and, if desired, or the

compound of formula (IIb) see paper version or one of its environmentally compatible salts; in a synergistically effective amount; and, if desired, C) at least one further herbicidal compound; in a synergistically effective amount. Compositions comprising these mixtures, processes for the preparation of these compositions, and their use for controlling un-desired plants.

# INTERNATIONAL SEARCH REPORT

International Application No

PCT/EP 03/08114

**A. CLASSIFICATION OF SUBJECT MATTER**  
IPC 7 A01N43/80

According to International Patent Classification (IPC) or to both national classification and IPC

**B. FIELDS SEARCHED**

Minimum documentation searched (classification system followed by classification symbols)

IPC 7 A01N

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

CHEM ABS Data, EPO-Internal, WPI Data

**C. DOCUMENTS CONSIDERED TO BE RELEVANT**

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	<p>WO 99 65314 A (BASF AG)  23 December 1999 (1999-12-23)  page 1, line 1 - page 3, line 25  page 4, line 4 - line 10  page 4, line 29 - line 30  table 1  page 19, line 33 - line 35  page 20, line 26 - line 27  page 24, line 10-19  page 40, line 16 - line 29  table 2  tables 18, 38-51, 66-68  -----</p>	1-35

☐ Further documents are listed in the continuation of box C.

☒ Patent family members are listed in annex.

\* Special categories of cited documents :

"A" document defining the general state of the art which is not considered to be of particular relevance

"E" earlier document but published on or after the international filing date

"L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)

"O" document referring to an oral disclosure, use, exhibition or other means

"P" document published prior to the international filing date but later than the priority date claimed

"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention

"X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone

"Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art.

"&" document member of the same patent family

Date of the actual completion of the international search

1 March 2004

Date of mailing of the international search report

12.03.04

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# INTERNATIONAL SEARCH REPORT

International application No.  
PCT/EP 03/08114

## Box I Observations where certain claims were found unsearchable (Continuation of item 1 of first sheet)

This International Search Report has not been established in respect of certain claims under Article 17(2)(a) for the following reasons:

1. ☐ Claims Nos.:  
because they relate to subject matter not required to be searched by this Authority, namely:
2. ☐ Claims Nos.:  
because they relate to parts of the International Application that do not comply with the prescribed requirements to such an extent that no meaningful International Search can be carried out, specifically:
3. ☐ Claims Nos.:  
because they are dependent claims and are not drafted in accordance with the second and third sentences of Rule 6.4(a).

## Box II Observations where unity of invention is lacking (Continuation of item 2 of first sheet)

This International Searching Authority found multiple inventions in this international application, as follows:

see additional sheet

1. ☒ As all required additional search fees were timely paid by the applicant, this International Search Report covers all searchable claims.
2. ☐ As all searchable claims could be searched without effort justifying an additional fee, this Authority did not invite payment of any additional fee.
3. ☐ As only some of the required additional search fees were timely paid by the applicant, this International Search Report covers only those claims for which fees were paid, specifically claims Nos.:
4. ☐ No required additional search fees were timely paid by the applicant. Consequently, this International Search Report is restricted to the invention first mentioned in the claims; it is covered by claims Nos.:

Remark on Protest

- ☐ The additional search fees were accompanied by the applicant's protest.
- ☒ No protest accompanied the payment of additional search fees.

FURTHER INFORMATION CONTINUED FROM PCT/ISA/ 210

This International Searching Authority found multiple (groups of) inventions in this international application, as follows:

1. Claims: 1-7 (partially), 8-11, 14-35 (partially)

A synergistic herbicidal mixture comprising at least one 3-heterocyclyl-substituted benzoyl derivative of the formula I and at least the compound of the formula IIa

2. Claims: 1-7 (partially), 12-13, 14-35 (partially)

A synergistic herbicidal mixture comprising at least one 3-heterocyclyl-substituted benzoyl derivative of the formula I and at least the compound of the formula IIb

# INTERNATIONAL SEARCH REPORT

Information on patent family members

International Application No

PCT/EP 03/08114

Patent document cited in search report		Publication date	Patent family member(s)	Publication date
WO 9965314	A	23-12-1999	AT 241271 T	15-06-2003
			AU 758799 B2	27-03-2003
			AU 4608999 A	05-01-2000
			BG 105144 A	31-12-2001
			BR 9911313 A	13-03-2001
			CA 2334955 A1	23-12-1999
			CN 1305346 T	25-07-2001
			DE 59905756 D1	03-07-2003
			DK 1087664 T3	22-09-2003
			EE 200000754 A	15-04-2002
			WO 9965314 A1	23-12-1999
			EP 1087664 A1	04-04-2001
			HU 0103418 A2	28-01-2002
			JP 2002518303 T	25-06-2002
			NO 20006315 A	12-12-2000
			NZ 508546 A	28-11-2003
			PL 345016 A1	19-11-2001
			PT 1087664 T	31-10-2003
			SI 1087664 T1	31-10-2003
			SK 18122000 A3	06-08-2001
			TR 200003752 T2	21-06-2001
			US 2003203819 A1	30-10-2003
			US 6534444 B1	18-03-2003
			ZA 200100395 A	15-01-2002